Overview of the 1999 Flight Season and Plans for 2000

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JPL/Caltech

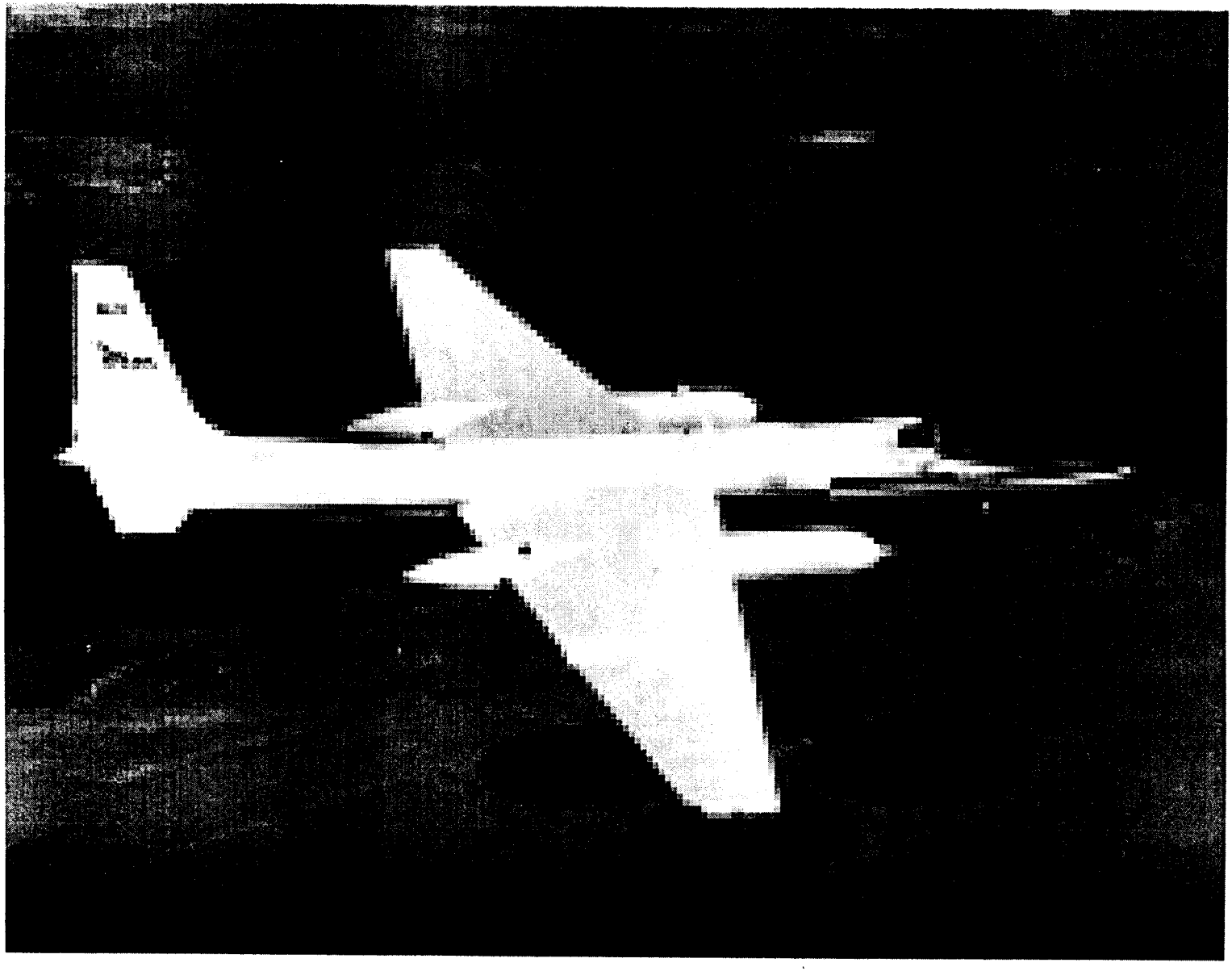
OVERVIEW

- AVIRIS Objective
- Maintenance for 1999
- 1999 Flight season
- Issues and challenges of 1999
- Maintenance for 2000
- Plans for 2000 flight season
- Discussion

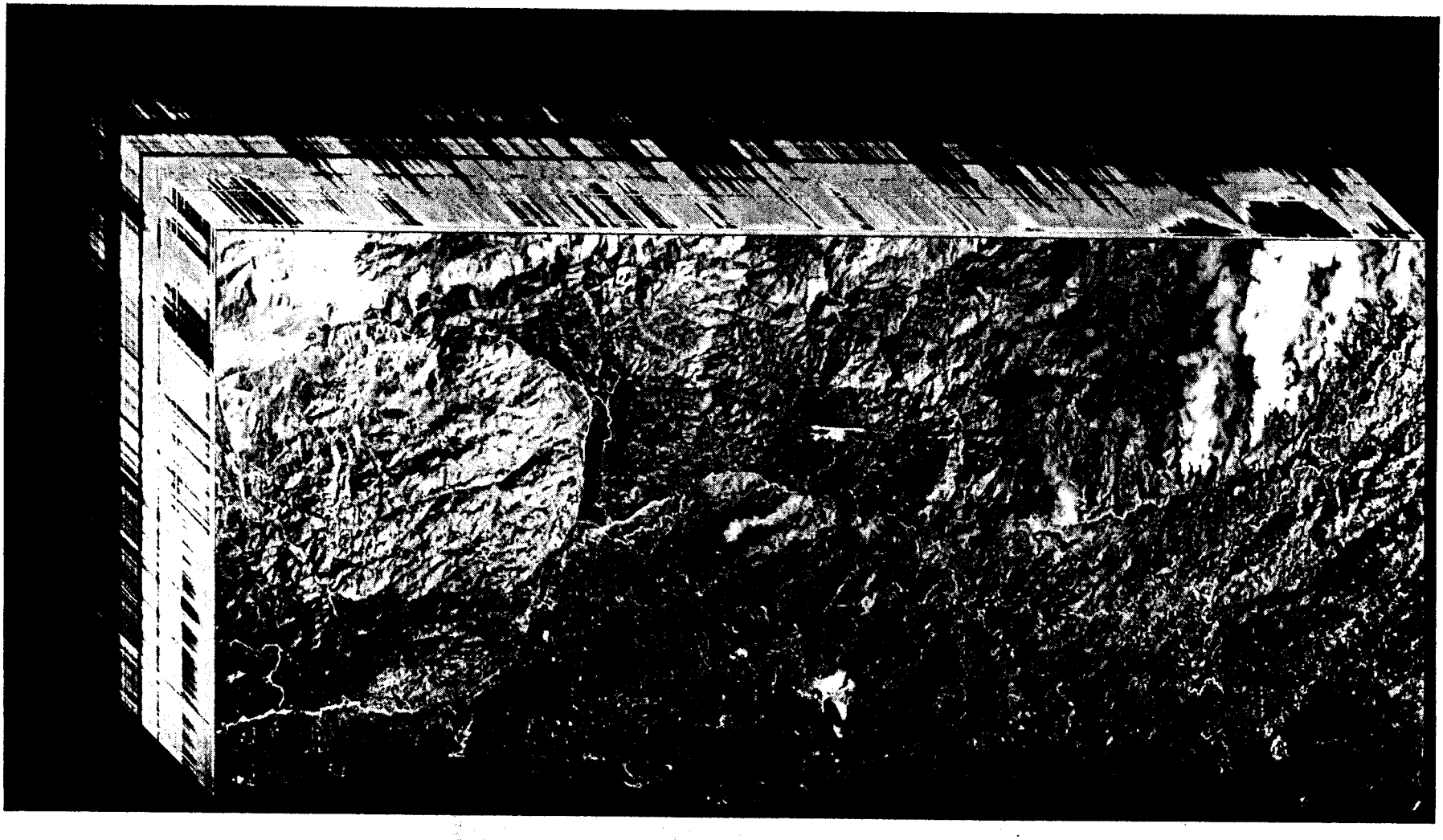
AVIRIS OBJECTIVE

- Measure high quality imaging spectroscopy data for NASA Earth Science Enterprise investigations
- Provide validation and underflight data sets for planned spaceborne imaging spectrometers
- Take advantage of AVIRIS hardware and data results to support technology advancement

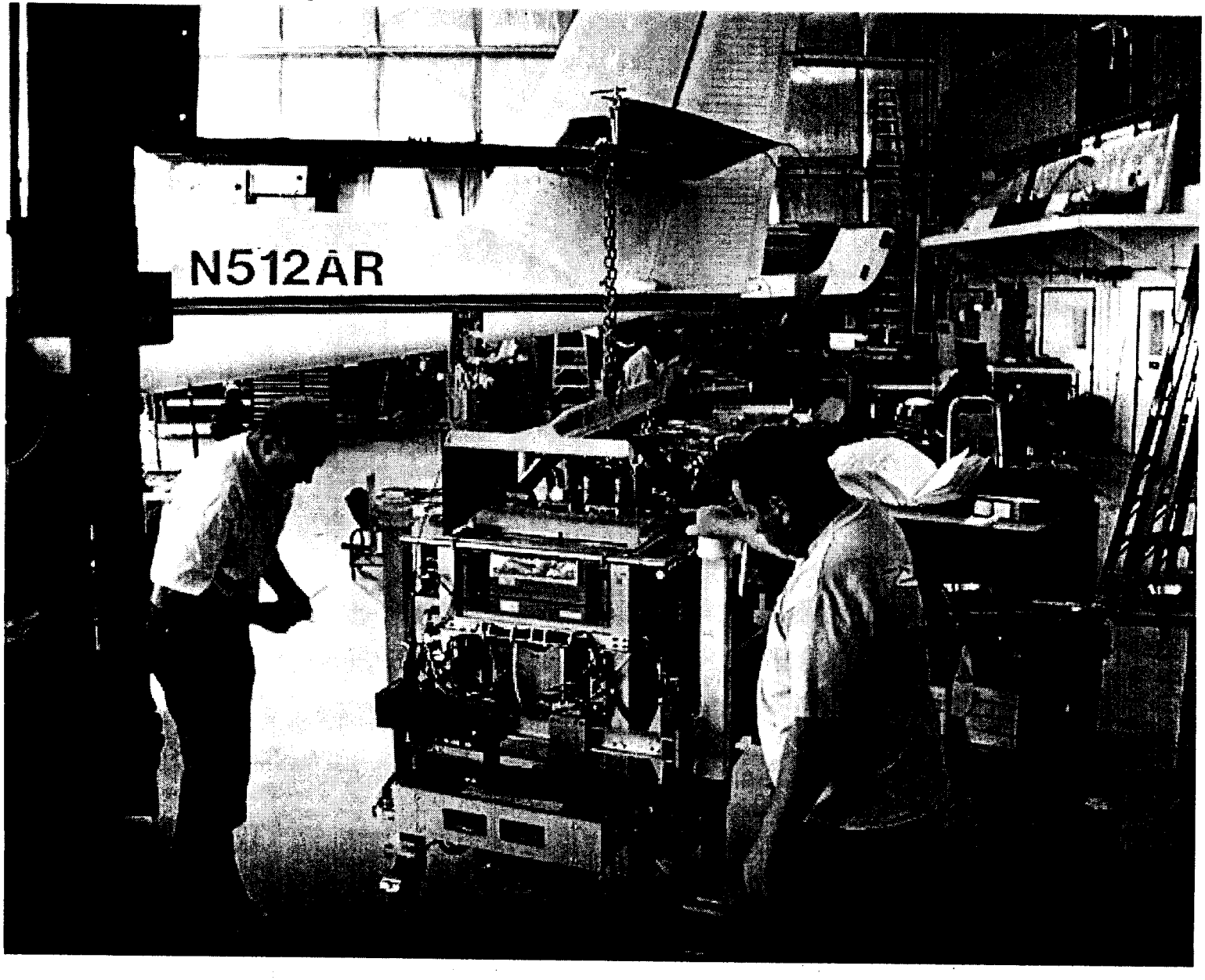
ER-2



AVIRIS: Fire in the San Gabriel Mtns

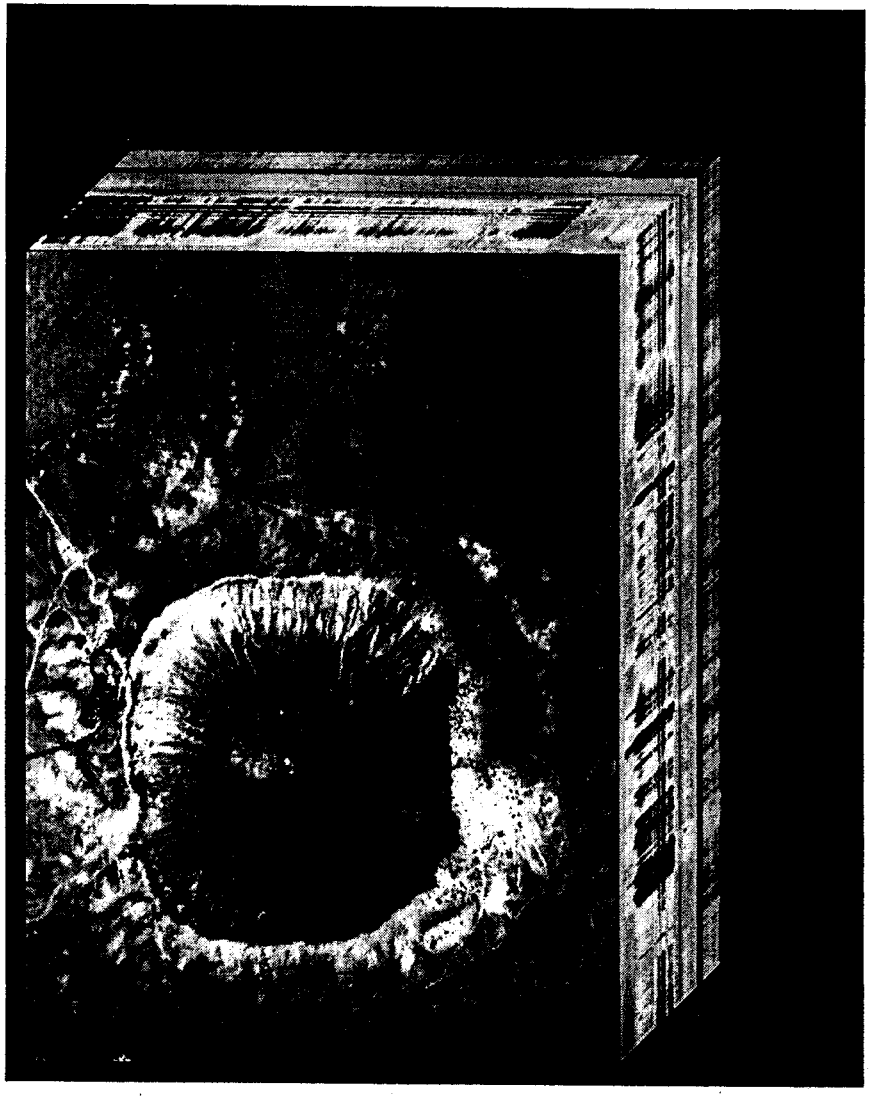


Preparing AVIRIS for Twin Otter

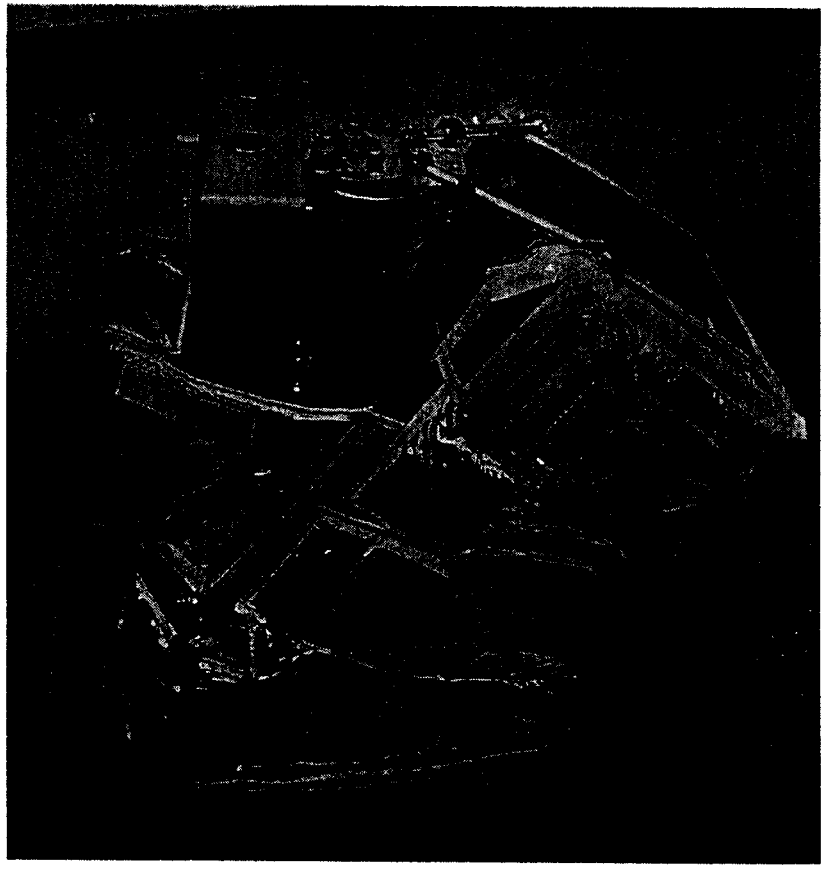


Salina Twin Otter Team

AVIRISLA: Meteor Crater, AZ



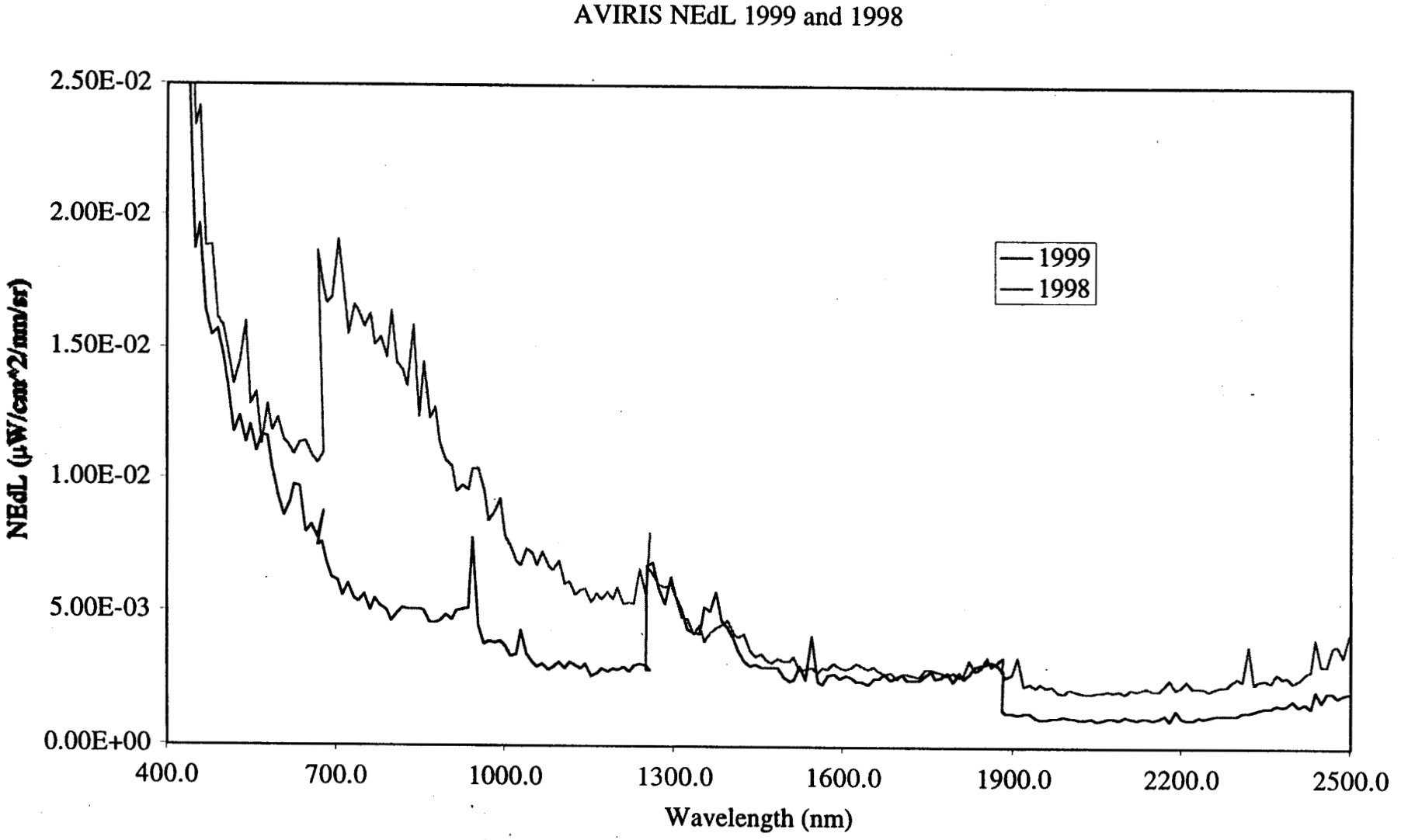
AVIRIS Spectrometer



AVIRIS MAINTENANCE IN 1999

- New B spectrometer detector array
- New detector multiplexors with lower noise
- AVIRIS INS/GPS for ER-2 and Low Altitude
- Stainless steel dewar trunnions for spectral stability
- Improved Low Altitude GSE

IMPROVEMENT IN AVIRIS PRECISION



1999 FLIGHT SEASON

- Beginning Dryden, CA: 9 May
- Patrick AFB, FL: 12 to 27 May
- Dryden, CA: 6 June to 21 June
- Salina, KS: 23 June to 20 July
- Low Altitude: 21 July to 1 August
- Wallops Island, VA: 3 August to 27 August
- Dryden, CA: 30 August to 7
- Low Altitude: 10 October to 13 November
- End: 13 November

CHALLENGES OF 1999

- JPL downsizing and Y2K issues
- Crack in D spectrometer filter May 1999
- Twin Otter
  - Installation of AVIRIS in Salina, KS
  - Installation in new Twin Otter, Las Vegas
- New level of NASA safety review (One week at GRC)

CHALLENGES OF 1999 continued

- Robert Green flew as AVIRIS technician
- Some spectral drift in AVIRIS over the flight season
  - May be able to provide updated spectral calibration
- Slow delivery of AVIRIS calibrated data
  - High volume of data
  - Multiple new formats (geo, ungeo)
  - Archiving and evaluation of flight data balanced with delivery of science data

MAINTENANCE FOR 2000

- New computer and tape drive
  - Maintainable into the future
  - Increased tape capacity
- New detector in the A spectrometer (improved SNR)
- New trunnions in the dewars
  - Improved spectral stability
  - Longer hold times

MAINTENANCE FOR 2000 continued

- More robust INS/GPS initialization (better yaw data)
- New ground support computer (maintainable)
- Onboard calibrator diffuse spectral source
  - Undate spectral calibration

2000 FLIGHT SEASON PLAN

- Begin flying a Dryden, CA: 27 March
- Hawaii:5 April to 27 April
- Dryden,CA
- Wallops, VA: May 3 to 27 May
- Dryden, CA
- Salina: June 20 to 13 July
- Possible Low Altitude: July 13 to 13 August
- Dryden, CA
- End at Dryden: October 31

DISCUSSION

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